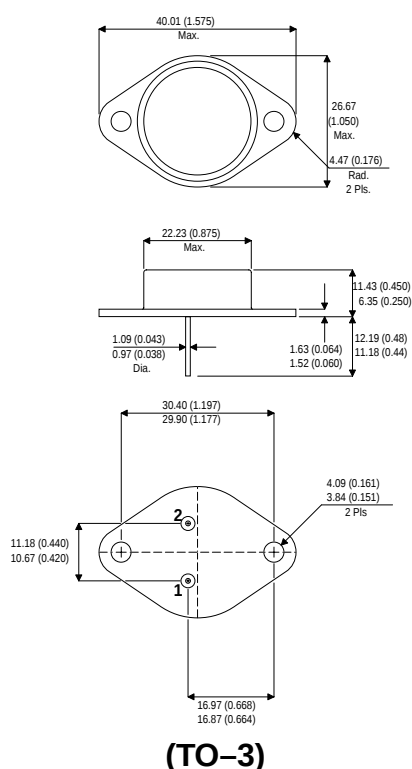


MECHANICAL DATA

Dimensions in mm (inches)



(TO-3)

PIN 1 — Base PIN 2 — Emitter Case is Collector.

HIGH VOLTAGE FAST SWITCHING

Description

The BUX98 and BUX98A are silicon multiepitaxial mesa NPN transistors in JEDEC TO-3 metal-case intended and industrial applications from single and three-phase mains operation.

ABSOLUTE MAXIMUM RATINGS

		BUX98	BUX98A
V_{CER}	Collector – Emitter Voltage ($R_{BE} \leq 10\Omega$)	850	1000
V_{CES}	Collector – Base Voltage ($V_{BE} = 0$)	850	1000
V_{CEO}	Collector – Emitter Voltage ($I_B = 0$)	400	450
V_{EBO}	Emitter – Base Voltage ($I_C = 0$)	7V	
I_C	Collector Current	30A	
I_{CM}	Collector Peak Current non ($t_p = 5ms$)	60A	
I_{CP}	Collector Peak Current non Rep ($t_p = 20\mu s$)	80A	
I_B	Base Current	8A	
I_{BM}	Base Peak Current ($t_p = 5ms$)	30A	
P_{tot}	Total Power Dissipation $T_{case} < 25^\circ C$	250W	
T_{STG}	Storage Temperature	-65 to +150°C	
T_J	Junction Temperature	200°C	

ELECTRICAL CHARACTERISTICS ($T_{\text{case}} = 25^{\circ}\text{C}$ unless otherwise stated)

Parameter		Test Conditions			Min.	Typ.	Max.	Unit	
$V_{\text{CEO(sus)}}^*$	Collector - Emitter Sustaining Voltage	$I_{\text{C}} = 200\text{mA}$		BUX98	400			V	
				BUX98A	450				
$V_{\text{CER(sus)}}^*$	Collector - Emitter Sustaining Voltage	$I_{\text{C}} = 1\text{A}$	$L = 2\text{mH}$	BUX98	850				
				BUX98A	1000				
$V_{\text{CE(sat)}}^*$	Collector – Emitter Saturation Voltage	$I_{\text{C}} = 20\text{A}$	$I_{\text{B}} = 4\text{A}$	BUX98			1.5		
		$I_{\text{C}} = 16\text{A}$	$I_{\text{B}} = 3.2\text{A}$	BUX98A			1.5		
		$I_{\text{C}} = 24\text{A}$	$I_{\text{B}} = 5\text{A}$				5		
		$I_{\text{C}} = 20\text{A}$	$I_{\text{B}} = 4\text{A}$	BUX98			1.6		
		$I_{\text{C}} = 16\text{A}$	$I_{\text{B}} = 3.2\text{A}$	BUX98A			1.6		
I_{CER}	Collector Cutoff Current	$V_{\text{CE}} = V_{\text{CES}}$					1	μA	
		$R_{\text{BE}} = 10\Omega$	$T_{\text{case}} = 125^{\circ}\text{C}$				8	mA	
I_{CES}	Collector Cutoff Current	$V_{\text{CE}} = V_{\text{CES}}$					400	μA	
		$V_{\text{BE}} = 0$	$T_{\text{case}} = 125^{\circ}\text{C}$				4	mA	
I_{CEO}	Collector Cutoff Current	$V_{\text{CES}} = V_{\text{CEO}}$	$I_{\text{C}} = 0$				2	mA	
I_{EBO}	Emitter Cutoff Current	$V_{\text{EB}} = 5\text{V}$	$I_{\text{C}} = 0$				2	mA	
t_{on}	Turn–On Time	$V_{\text{CC}} = 150\text{V}$	$I_{\text{C}} = 20\text{A}$	BUX98			1	μA	
t_{s}	Storage Time	$I_{\text{B1}} = I_{\text{B2}} = 4\text{A}$					3		
t_{f}	Fall Time						0.8		
t_{on}	Turn–On Time	$V_{\text{CC}} = 150\text{V}$	$I_{\text{C}} = 16\text{A}$	BUX98A			1	μA	
t_{s}	Storage Time	$I_{\text{B1}} = I_{\text{B2}} = 3.2\text{A}$					3		
t_{f}	Fall Time						0.8		

* Pulsed: Pulse duration = 300 μs , duty cycle = 1.5%

THERMAL CHARACTERISTICS

$R_{\text{th j-case}}$ Thermal Resistance Junction to Case	0.7max $^{\circ}\text{C/W}$
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